COUNTER TOP DISPENSER

Omega, Omega+ and RC Omega+
Installation and Service Manual

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The products, technical information, and instructions contained in this manual are subject to change without notice.

These instructions are not intended to cover all details or variations of the equipment, nor to provide for every possible contingency in the installation, operation or maintenance of this equipment. This manual assumes that the person(s) working on the equipment have been trained and are skilled in working with electrical, plumbing, pneumatic, and mechanical equipment. It is assumed that appropriate safety precautions are taken and that all local safety and construction requirements are being met, in addition to the information contained in this manual.

This Product is warranted only as provided in Cornelius' Commercial Warrant applicable to this Product and is subject to all of the restrictions and limitations contained in the Commercial Warranty.

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Contact Information:

To inquire about current revisions of this and other documentation or for assistance with any Cornelius product contact:

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This document contains the original instructions for the unit described.

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SAFETY INSTRUCTIONS

SAFETY INSTRUCTIONS

WARNING:
Before starting installation, read and understand all safety label and warnings on the machine. Also review and understand all safety instructions in the owners, installation and service manuals.

Failure to comply could result in serious injury, death or damage to the equipment.

QUALIFIED SERVICE PERSONNEL

WARNING:
Only trained and certified electrical, plumbing and refrigeration technicians should service this unit.

All wiring and plumbing must conform to national and local codes. Failure to comply could result in serious injury, death or equipment damage.

SAFETY PRECAUTIONS

This unit has been specifically designed to provide protection against personal injury. To ensure continued protection observe the following.

WARNING:
Disconnect power to the unit before servicing. Follow all lock out/tag out procedures established by the user. Verify all power is off to the unit before performing any work.

Failure to comply could result in serious injury, death or damage to the equipment.

CAUTION:
Always be sure to keep area around the unit clean and free of clutter.

Failure to keep this area clean may result in injury or equipment damage.

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INSTALLATION INSTRUCTIONS

GENERAL DESCRIPTION

IMPORTANT: To the user - This manual is a guide for installing, operating and maintaining this equipment. Please read fully prior to installation and retain this document for service and troubleshooting.

The **Omega** and **Omega Plus** are mechanically refrigerated counter top post mix dispenser utilizing a water bath cooling system with an ice bank reserve. The **Omega Plus** is similar to the **Omega** except it is equipped with an integral carbonator. Both units are optionally supplied with a lighted merchandiser. The **Omega** 16 valve is a standard **Omega** with a duplicate set of dispensing valves on the opposite side.

Specifications

Model Designation	Valve Style	Cabinet Dimensions A
Omega	6 Valves, 6 Carb 1 or 2 Plain Water	24.0"W x 28.5"D x 31.0"H
	8 Valves, 8 Carb 1, 2 or 3 Plain Water	24.0"W x 28.5"D x 31.0"H
	10 Valves, any combination up to 5 Carb & 5 Plain Water	30.0" x 28.5"D x 31.0"H
	16 Valves, 12 Carb 2 or 4 Plain Water	24.0"W x 38.5"D x 31.0"H
Omega Plus	6 Valves, 6 Carb 1, 2 or 3 Plain Water	24.0"W x 28.5"D x 31.0"H
	8 Valves, 8 Carb 1, 2 or 3 Plain Water	24.0"W x 28.5"D x 31.0"H
	Omega	**Omega Plus**
Water Bath Capacity	19.0 Gallons	18.5 Gallons
Ice Bank Weight (Nominal)	50 lbs.	45 lbs.
Shipping Weight	241 lbs.	252 lbs.
Counter Weight w/Water	387 lbs.	398 lbs.
Electrical Ratings	120 VAC 60 Hz 1 Phase 13.0 Amps w/ Optional Merchandiser 15.0 Amps w/ Optional Receptacle	120 VAC 60 Hz 1 Phase 16.0 Amps w/ Optional Merchandiser 18.0 Amps w/ Optional Receptacle
Compressor	Tecumseh 3/4 HP	Tecumseh 3/4 HP
Refrigerant	R12, 20.5 oz. Charge R134a, 18.5 oz. Charge	R134a, 18.5 oz. Charge
Agitator Motor	115 VAC 15 Watt or 25 Watt	115 VAC 25 Watt
Condenser Motor	115 VAC 35 Watt	115 VAC 35 Watt
Ice Bank Control	Ranco	Ranco
Transformers (2 or 1) 75VA	Basler 120 VAC Pri 24 VAC Sec	Basler 120 VAC Pri 24 VAC Sec
Carbonator Specifications	Not Applicable	Tank Capacity (Total Volume)60 oZ. Cycling Capacity 7.2 oZ. Carbonator Motor 115 VAC, 1/3 HP Carbonator Pump 100 GPH Control/Level Sensor: Low Voltage
Fittings	1/4" or 3/8" Barb Fittings Syrup (1 per valve/valve combo) 3/8" Barb Fittings Soda 3/8" Barb Fittings Plain Water	1/4" or 3/8" Barb Fittings 1/4" Barb CO_2 Fittings for carbonator 3/8" Barb Water Fitting

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UNPACKING AND INSPECTION

The unit was thoroughly inspected before leaving the factory. Any damage should be noted at the time of delivery (no later than 15 days from date of delivery) and immediately reported to the carrier. File the claim with the delivering carrier.

INSTALLATION REQUIREMENTS

Not applicable when supplied with Counter Intelligence Beverage System CI8100 or CI6501.

Counter Area

A flat surface which is able to support 500 pounds. Counter cutouts, (if required) for product lines, drainage lines and electrical cords. See template provided with installation kit for dimensions and locations.

Do not install the dispenser in a location subject to heat build-up due to heat discharge from other sources (i.e., other operating equipment, lighting, sun loading, etc.).

Clearance above the dispenser must be unobstructed to allow removal of the upper cabinet for servicing the power deck, as well as providing adequate ventilation. There must be no obstruction of the vertical intake grille in either the standard or reverse power deck orientation (see Reverse Power Deck instructions, applicable to Omega only.) There should be a minimum of 4 inches clearance on each side of the unit. There must be 4 inches at the rear of the unit unless it is installed with the vertical grille adjacent to the dispensing valves and there is a wall barrier at the rear. The **Omega** with **16 VALVES** requires a minimum of four (4) inches of clearance on both sides of the unit. **Failure to comply may restrict air movement sufficiently to impair refrigeration performance.**

Ambient operating temperature should not exceed 90^0F. on units with merchandisers.

Seal

A silastic caulk, approved for use in a food zone (Dow Corning 732 or equivalent) is required to seal equipment to the counter top. Optional 4 inch leg kit(60011-029) is available.

Electrical

Use separate 120 VAC 20 amp 60 HZ grounded duplex outlets to accommodate the dispenser and/or accessories. The outlet should be located within 3 feet of the unit and installed according to national and local electrical codes.

Drain

An approved three (3) inch or larger drain must be located within three (3) feet of the dispenser. The preferred drain is an open floor sink with center cone. **DO NOT** use copper for soft drink drains.

Water

An optional carbonator is required for **Omega** dispenser. The **Omega Plus** has an integral cold carbonator and water pump.

Connect carbonator pump inlet (**Omega Plus**) to a water supply of ample capacity. Water pipe connections and fixtures directly connected to a potable water supply shall be sized, installed and maintained according to federal, state and local laws.

Install a shut-off valve and a union in the water supply line. Before connection of soda or water supply lines, flush line thoroughly to remove all scale, rust, etc.

Supply line size should be 3/8”ID, if less than 20 feet from the carbonator pump. If longer than 20 feet, use 1/2”ID tubing.

> **NOTE: A wire mesh strainer is provided on the water pump inlet connection (Omega Plus) as protection against large particles of rust, scale, etc., which may be loosened in the water pipe at the time of installation. This strainer will not prevent fine particles of matter from damaging the pump, therefore, a good filter is recommended in any installation and absolutely essential when the supply water contains solids.**

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Water supply pressure must be at least 20 PSI below operating CO_2 pressure otherwise the carbonator may flood. If pressure exceeds 75 PSI, install a water pressure regulator and adjust as required. It is important that the water circuit should be entirely free of joint compound or oil of any kind. Oil or grease will seriously interfere with proper carbonation.

Non-carbonated drinks, supplied through fittings on the carbonator, require a minimum of 40 PSI water pressure. If the water pressure is below this, install a water booster pump.

Use water filters to eliminate undesirable elements in the water, such as chlorine in excess of 1.5 ppm. Use a type that does not remove all chlorine.

> **IMPORTANT: Insufficient water supply will cause noisy operation and eventual damage to carbonator pump. If strainer and filter are clear and line valves fully open, noisy pump operation indicates insufficient water supply pressure, usually less than 10 PSI.**

If the installation is idle and exposed to freezing temperatures, disconnect water supply line and blow all water out of pump, carbonator tank and dispensing system.

CO_2 System

1. Connect carbonator tank single check valve inlet to CO_2 supply.
2. The CO_2 tank must be located next to a solid wall and chained.
3. The CO_2 storage area must be open and vented.
4. On bulk CO_2 tanks ensure vaporizing and regulator capacity is sufficient (i.e. 8-9 scfm average per dispenser and carbonator).
5. Set CO_2 regulators as appropriate.

Omega (with ambient carbonator)

- 105 psi for all valves with a flow rate greater than 1.5oz/sec
- 95 psi for all valves with a flow rate less than 1.5oz/sec

Omega Plus with cold carbonator

- 75 psi for all valve flow rates

If CO_2 is to be located under the counter, 30 inches under counter clearance is required.

Undetected CO_2 leaks may cause harm or death due to asphyxiation. Installation and Service personnel must carefully inspect all CO_2 tubing, fittings, and syrup pumps for any damage that may have occurred during shipment, installation, or operation.

Syrup System

Allow no more than two (2) Fast Flow Valves per Bag-In-Box (BIB) pump or Figal. Up to 4 BIB's can be connected together, whether a selector (automatic switch-over device) is used or not, as long as all bags are at the same level, not above or below each other. Because of pressure drop within figal fittings, no more than two (2) Figals should be connected in series.

> **IMPORTANT: Soda connections OMEGA only: The soda line connecting the carbonator to the dispenser must be of approved beverage grade plastic or stainless steel. This line should be of uniform size and free from restrictions to maintain maximum carbonation. Recommended tubing sizes: 3/8" up to 20 feet, 1/2" or larger for 20 feet or longer and fast flow carbonators.**

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INSTALLATION PROCEDURE

NOTE: Not applicable when supplied with Counter Intelligence Beverage System CI8100 or CI6501.

1. With the template provided in the installation kit, mark the outline of the OMEGA or OMEGA PLUS on the counter surface and the location for product line hole locations; When optional leg kit is installed, route lines and drainage as desired. Adjust the legs as needed so the unit is level to provide proper operation and drainage.
2. Apply a 1/2 inch wide bead of silastic within the dispenser outline.
3. Place the **Omega** or **Omega Plus** on top of the silastic. Wipe the excess silastic creating a smooth seal. Allow silastic to set then bolt unit to counter, if desired. All holes cut in counter top for product, drain and electrical lines must be sealed with an acceptable material in accordance with local and state health and building codes.
4. Attach the drain hose and clamps to the bottom of the drip pan assembly.
   A. Place hose clamp approximately 2 inches from hose end.
   B. Slide hose over drain outlet fitting.
   C. Slide hose clamp up and tighten.

   NOTE: Omega, 16 valve unit has two drain hoses, one for each drain pan.

REVERSE POWER DECK (OMEGA ONLY)

NOTE: Not applicable when supplied with Counter Intelligence Beverage System CI8100, CI6501 or Omega Plus cold carbonator unit or units with mini pumps.

Before reversing the power deck, be sure all clearances are maintained as outlined in the Installation Requirements.

Disconnect power before changing power deck position.

1. Remove upper cabinet by removing two (2) hold-down screws and lifting it up and off the dispenser.
2. Remove two (2) hold-down screws that secure power deck to the water bath.
3. Disconnect the power cord and valve wiring quick connects.
4. Carefully, lift power deck up from water bath, rotate it 180^0 and set it back down. **Be careful not to cause damage to the agitator propeller. The position of the agitator propeller must be in the center of the coil basket for proper operation.**
5. Secure the deck with the four (4) hold-down screws and connect the power cord and valve wiring quick connects.
6. Dismantle and reposition the rocker switch on top of the condenser so that it now utilizes the other mounting hole with the center common hole. The switch bracket has room for adjustment to provide a neat fit with the upper cabinet.
7. Replace upper cabinet in its reversed position. Engaging the tabs on the end opposite the attachment screws, then secure it with the two (2) hold-down screws.

START-UP AND OPERATION

1. Fill water bath tank with cold water through the fill hole provided on the refrigeration deck. The tank should be filled until water drains through the over flow tube into the drain pan.

   IMPORTANT: Water Bath Maintenance - The water bath should be filled only with clean, potable water. Never add chemicals such as chlorine or antifreeze, as these chemicals may cause severe damage due to corrosion and/or freeze up.

A sufficient level of clean water is essential for maintaining an ice bank for proper operation. Water must be added periodically, a minimum of once per month, to offset evaporation, which can cause valve freeze-up.

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2. Connect dispenser to a separate grounded 120VAC 20 amp duplex outlet. Turn power switch ON.

   Approximately 3.5 to 4 hours with an ambient temperature of 75^0 F. Ambient temperature with no usage is required before unit is ready. The dispenser uses an ice bank control to maintain a preset ice reserve. Normal heat loss or dispensing of drinks will cause enough ice to melt, causing the control to signal the compressor.The compressor will run until the ice reserve is replenished. The ice bank control is factory set and requires no field adjustments. The refrigeration system is hermetically sealed and requires no adjustments or charging. A low pressure control is factory set at 13 psi cut-in and 10 psi differential and should not be adjusted (applicable to **Omega** only).

3. Remove the cup rest, drip pan and splash plate.

4. Thoroughly flush all incoming syrup and water lines before connecting them to the dispenser.

   IMPORTANT: System must be sanitized as instructed prior to operation. See Cleaning and Sanitizing Instructions.

5. Connect syrup lines to appropriate inlet connections.

6. Connect carbonator as directed by instructions from carbonator manufacturer.

On Omega Plus, with integral carbonator, the following start-up procedure must be performed.

   A. Turn on the water supply and allow the carbonator to fill completely.

   B. Lift relief valve ring until water flows from relief valve openings. Release ring and allow to close.

      NOTE: All air must be purged from the tank for proper carbonation.

   C. Energize electrical supply.

   D. Turn on CO_2 gas and adjust regulator to 75 psi.

   E. Activate a dispensing valve until pump starts. Close dispensing valve and allow pump to cycle.

   F. Cycle pump several times to establish good carbonation level.

      NOTE: It may be necessary to reduce the CO_2 pressure by 5-10 psi if high carbonation results in excessive foaming in the dispensed drink.

7. Dispensing valves will not actuate unless key lock (key in installation kit) is in the ON position, then depress the desired valve lever or push button.

8. Replace splash plate, drip pan and cup rest.

9. Dispense drinks from each valve to purge any remaining sanitizer from the syrup lines and establish quality carbonation in the carbonator. It is recommended that the cup be held approximately one (1) inch below the valve nozzle to minimize foaming. When drawing several drinks, the cup rest area can be used to support the dispensed drinks. **DO NOT** set filled cups on dispensing unit top or valve covers. Spillage could cause damage to dispenser components.

Timed Carbonator Cycle Liquid Level Control

Carbonator control boards having the timer function (Cornelius P/N 60439-010, 115V or 60439-011, 220V) will automatically shut off the carbonator pump when continuous run time exceeds approximately seven (7) minutes. This function provides protection against “dry” running the carbonator pump without a connected water supply. If the carbonator has this feature and is not operating, momentarily interrupt the power to the unit through the power switch or plug attachment, and this will reset the timer. Review operation to determine the cause for excessive run time, which may include ruptured product lines, stuck dispensing valve, high CO_2 pressure, air in the carbonator tank, faulty electrode, etc. Please consult the Carbonator Troubleshooting Guide section under “pump runs continuously”.

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Routine Maintenance

1. Once a month, vent the relief valve as follows: Shut off CO_2 to carbonator then vent the relief valve until water flows from the relief valve openings and release ring. This assures proper relief valve operation and purges the tank of disassociated air that was dissolved in the supply water. This procedure will help maintain optimal carbonation levels.
2. Perform routine check valve maintenance as indicated under separate check valve installation and instruction section.Check gas supply and low pressure regulator. Adjust gas supply and regulator setting, or replace. Low pressure regulator should be adjusted as follows:
   - **B.I.B. System**
     - Sugar Base 50 - 65 PSI
     - Sugar Free 50 - 65 PSI
     - **DO NOT** Exceed 70 PSI on B.I.B. Pumps
   - FIGAL System
     - Sugar Base 40 - 60 PSI
     - Sugar Free 10 - 15 PSI
     - **DO NOT** Exceed 80 PSI on Figals

Cleaning and Maintenance

IMPORTANT: The dispenser must be cleaned and sanitized after installation and, thereafter, as required by state and local health departments, or every three months minimum.

Continuous maintenance of this unit is a basic requirement for proper operation and sanitation, including all support equipment utilized in the daily operation of this equipment.

1. On a daily basis, clean the external cabinet (splash areas) with mild soap and warm water. Wash the cup rest and drip pan in cleaning solution and rinse with warm tap water. *Remove the drain fittings and o-ring from the drip pan and thoroughly clean the drain opening.

   NOTE: Make sure to replace o-ring when re-assembling or drain will leak.

2. **DO NOT** use strong bleach or detergents or they may discolor and corrode the cabinet materials.
3. **DO NOT** use steel wool or other abrasive scouring pads.
4. **DO NOT** use excessively hot water which may cause damage to plastic components.
5. The water bath should be cleaned two to four times annually, depending upon local water conditions and in accordance with state and local health departments.
6. Cleaning of the refrigeration components should be performed by a qualified service person. Disconnect power before removing the dispenser top. The dispenser top grilles should be cleaned periodically to maintain efficient refrigeration. Condenser fins should be combed, if needed, to maintain adequate circulation. Clogged condensers can lead to premature compressor failure.

*Not supplied on all units. Not applicable when supplied with Counter Intelligence Beverage System CI8100 or CI6501.

Cleaning Equipment and Suppliers

1. Recommended cleaner: A. C. Fergusson Company #3391 or any caustic-base (low sudsing, non performed easily rinsed) detergent solution which provides a minimum 2% sodium hydroxide. The solution should be prepared in accordance with the manufacturer's instructions. Solution should be between room temperature.
2. Recommended sanitizer: A. C. Fergusson Company SuperChlor (1 ounce in 5 gallons of water) or any sanitizer which provides a minimum of 200 parts per million of available chlorine. Solution should be room temperature.

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3. Three five (5) gallon figals (syrup tanks) and fittings, cleaned and sanitized (one for water; one for cleaner; one for sanitizer.
4. Containers for cleaner and sanitizer solutions.
5. Clean, nonabrasive clothes.
6. Bucket.
7. Small Brush.
8. Extra nozzles.
9. Extra jumpers.

Cleaning and Sanitizing Procedure

WATER CIRCUITS: Cleaning and sanitizing is not required for potable water circuits. Potable water lines should remain connected and operational during the cleaning and sanitizing procedures for syrup circuits.

CAUTION:
Carbonated water lines must remain connected and operational during cleaning and sanitizing of the syrup circuits. sanitizing of the valve without the carbonated water side operational, may leave bacteria in the nozzle, diffuser and syrup tube.

> **NOTE: OMEGA 16 Valve Units - Each syrup line must be cleaned and sanitized by simultaneously activating both valves of each valve pairs directly opposite each other on both sides of the dispenser. Each opposing valve pair is served by a common syrup tube.**

1. Disconnect each syrup container from its product line. Fill a figal with clean water, pressurize between 40 to 60 psig and connect the pressurized figal to the syrup product line. Remove syrup from the lines by activating the dispensing valve. Continuously activate the dispensing valve until all syrup has been purged from the product lines and valves as noted by the flow of clean water from the valves. All product lines should be sequentially purged of syrup using this procedure.
2. Clean all lines and fittings with cleaning solution and rinse with clean, room temperature water to remove all traces of residual product.
3. Clean each valve product line as follows:
   A. Fill a figal with dissolved cleaning solution, pressurize to 40 to 60 psig and connect the pressurized figal to the syrup product line.
   B. Activate the dispensing valve continuously for one (1) minute to remove all air bubbles.
   C. Pressurize the lines by pulsing the valves, 15 seconds **ON, OFF**, then immediately **ON** again for fifteen (15) cycles then allow the valve to remain flowing for three (3) minutes.
   D. Repeat pulsing and flowing the valves again until all cleaning solution has been used.

DO NOT allow cleaning and sanitizing solutions to remain in syrup systems longer than is necessary to complete these procedures. Exceeding contact time will result in damage to valve components.

   E. Wait three (3) minutes and then flush the cleaning solution from the lines with clean water by connecting a pressurized figal with clean water. Pressurize and flush the valves by pulsing the valve for (15) cycles and then flushing three (3) minutes as described in the previous paragraph. Continue pulsing and flushing until testing with phenolphthalein shows the rinse water is free of residual detergent.Sanitize each valve product line as follows:
   F. Be sure all connections are cleaned and sanitized before connecting to each product line. Fill a figal with dissolved sanitizing solution, pressurize to 40 to 60 psig and connect the pressurized figal to the syrup product line.
   G. Activate the dispensing valve continuously for one (1) minute to remove all air bubbles. Allow the sanitizing solution to flow through each valve while activating the valves for fifteen (15) cycles (as described in paragraph 3), then leave valves OFF and allow to stand pressurized for thirty (30) minutes.

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H. Activate the valves for fifteen (15) cycles (as described in paragraph 3), then flush remaining sanitizer continuously through the valves.

I. Remove the nozzles and the diffuser assemblies from the valves, disengage diffuser assembly components and clean with cleaning solution. Agitate the assemblies to assure assemblies are clean. Place them in a container of sanitizing solution for fifteen (15) minutes.

J. Wearing sanitary gloves, remove the nozzles and diffuser assemblies from the sanitizing solution, drain dry, then reassemble them to the valves.

4. Reconnect the syrup containers to their respective circuits and ready the unit for operation.
5. Draw drinks to refill lines and flush the sanitizing solution from the dispenser. Taste the beverage to verify that there is no off-taste (chlorine).

WATER BATH CLEANING

It is recommended that the water bath be cleaned two to four times annually, depending upon local conditions and/or as required by state and local health departments. The water bath should be clean to obtain maximum cooling efficiency.

Melt ice bank completely. Disconnect electrical power and the wiring harness quick disconnect on the refrigeration deck before draining the water bath and attempting to remove the refrigeration deck from the water bath to avoid permanent damage to the deck coil basket. Omega Plus units require disconnection of pump inlet/outlet connections prior to refrigeration deck removal.

The water bath compartment is well insulated and it may take five to six hours for the ice to melt. Refilling with warm water may help to melt the ice more rapidly.

1. Remove plug from the drain tube (located behind splash plate) and position the tube to drain into the drain pan.
2. After the ice has melted, grasp the handles located on each side of the refrigeration deck and lift up and out of the water bath, being careful not to cause damage to the coils and place on a drop cloth.Thoroughly clean the water bath coils, sides, bottom, carbonator tank and rinse.

   A. Depressurize and disconnect all incoming product lines to the coil package.

   B. Remove two outer valves and mounting blocks (far right and left), and the two outer mounting blocks.

   C. Remove four screws holding the valve mounting plate.

   D. Prepare a temporary, and secure, mounting platform above the water bath to rest the coil assembly located inside the water bath (suggestion - two 2x4's).

   E. Remove lock down hardware holding product basket on water bath floor.

   F. Lift the coil package out, and place on the temporary platform.

   G. Thoroughly clean around all coils and between all crevasses with a brush and cleaning solution to remove all algae and foreign matter.

   H. Place coil package into the clean water bath and replace lock down hardware.

   I. Secure the valve mounting plate with the four screws and replace the two outer valve mounting blocks and valves.

3. Clean the condenser with a vacuum cleaner or a soft bristle brush.
4. Clean compressor, agitator motor and fan assembly with a cloth, wiping off accumulated dust.
5. Place the refrigeration deck into its original position.
6. Replace drain tube plug and fill the water bath with clean cold water.
7. Reconnect the wire harness on the refrigeration deck.
8. Place cabinet top back onto the unit in it's original position and secure.
9. Clean and sanitize product lines and valves as per Cleaning and Sanitizing Instructions before placing dispenser into service.

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MER24 Merchandiser Installation (Optional)

NOTE: Not applicable when supplied with Counter Intelligence Beverage System CI8100 or CI6501.

The **MER24** is a lighted sign available as an option at the time of purchase. The **MER24** is shipped partially assembled and separate from the **Omega and Omega Plus** dispenser.

1. Turn **OFF** power to dispenser.
2. Remove two screws from dispenser top.
3. Remove top cover from **MER24** and remove plastic lens.
4. Remove fluorescent lamp packed inside **MER24**.
5. Attach **MER24** to the front of the **Omega** or **Omega Plus** by locating four ball studs on rear of the **MER24** and positioning them in the four retainers on the front of the **Omega** or **Omega Plus**. Apply pressure on the back wall over the stud areas until each ball is locked into the retainers and electrical connector on back of the **MER24** is plugged in. Install plastic safety pin which engages merchandiser with the bonnet.
6. Install fluorescent lamp into lamp holders.
7. Carefully slide lens into slots along front edge of the merchandiser body.
8. Replace **MER24** top cover and secure with two screws.
9. Turn power **ON** to dispenser to illuminate the **MER24**.

Plain Water Pressure Boost System (Optional)

The **CORNELIUS Plain Water Pressure Boost System** (patent pending) is optional on **Omega Plus** dispensers with built-in cold carbonators. The purpose of the system is to increase water supply pressure and to ensure adequate flow when plain water drinks are dispensed. Without plain water pressure boost, low supply water pressure may reduce the dispensing flow rate of plain water drinks.

Plain water pressure is increased by operating the carbonator supply pump when a plain water drink is dispensed. Actuation of the pump motor is accomplished by use of a relay. The relay coil is energized when the plain water dispensing valve is activated, thus causing contact closure to supply power to the motor.

The CORNELIUS system uses a bypass pressure regulator to control the discharge pressure of the carbonator pump. The bypass regulator is connected between the pump suction and discharge. The regulator is factory set to maintain 40 psig differential pressure across the pump. For example, if main water supply pressure is 50 psig, then the pump discharge pressure would be 50 + 40 = 90 psig. The pump discharge pressure will vary with changes in main water supply pressure.

If a bypass regulator is not used, the carbonator pump will develop excessive discharge pressures greater than 200 psig. This could cause valve leaks and reduce carbonator performance.

A two-way solenoid valve isolates the bypass regulator when no plain water drinks are being dispensed. During normal operation the solenoid valve is closed and the carbonator pump develops high pressure needed to fill the carbonator tank. Upon actuation of the plain water valve, the relay simultaneously energizes both the carbonator pump and the isolation valve solenoid. With the isolation valve open, the bypass regulator will function to provide the desired pressure regulation.

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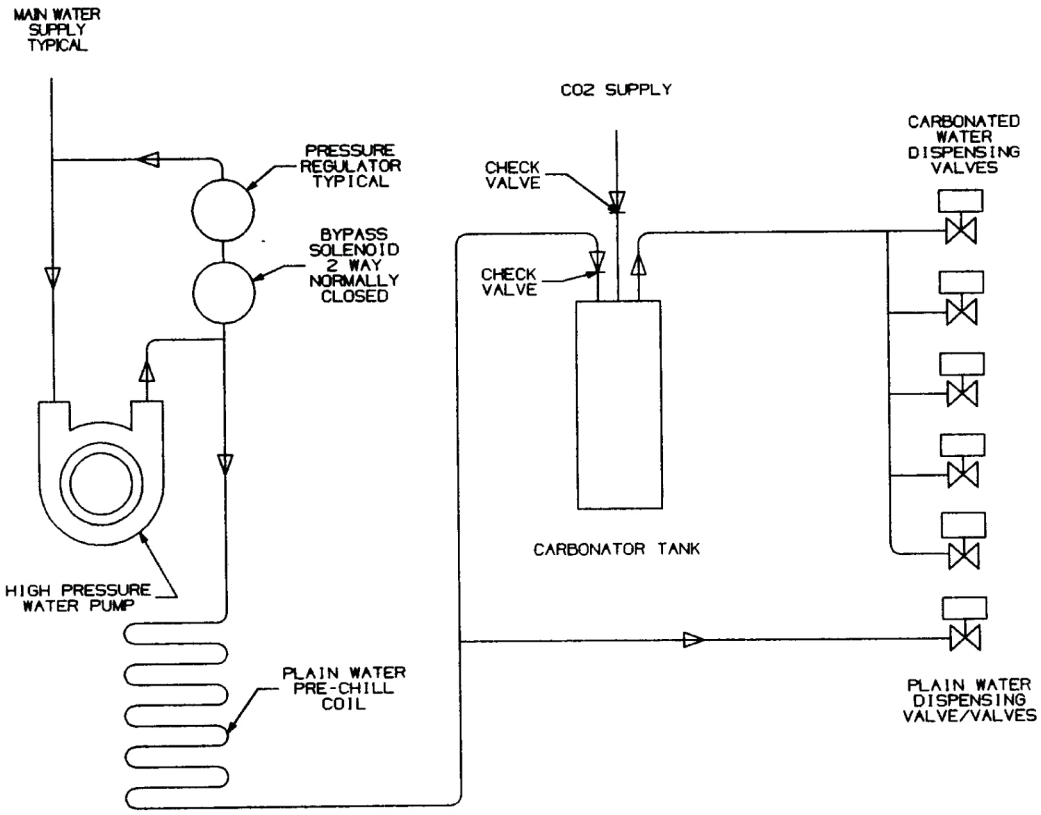
Bypass Regulator Adjustment

Excessively low main water supply pressure will result in low plain water dispense rate. Thus is may become necessary to increase the bypass regulator setting to greater than 40 psig. The plain water boost pressure may be increased by turning the adjusting screw on the regulator body clockwise in no more than one revolution increments. Make adjustment until acceptable plain water dispense rate is observed at the dispensing valve (i.e., 2.5 oz/sec for a fast flow valve). The dispensing valve flow control should be about 67 percent closed when setting.



Mini Pump system (Optional)

Lancer Mini Pumps may be installed as an optional BIB syrup pumping system and are located below the **Omega Plus** dispensers with an extra high base. (Refer to separate **Lancer Mini Pump Operation and Service Installation** instructions included with dispensers with this optional system.)

The Mini Pump tray assembly, installed at the factory, has been leak tested. The tray assembly engages two slide brackets mounted to the underside of the **Omega Plus** which allows the pumps to be pulled forward for easy maintenance.

When sliding the tray back into position after maintenance, be sure all tubing is not kinked or pinched. A stop is provided to keep the tray assembly from being pushed too far back.

Undetected CO_2 leaks may cause harm or death due to asphyxiation. Installation and service personnel must carefully inspect all CO_2 tubing, fittings, and syrup pumps for any damage that may have occurred during shipment, installation, or operation.

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Ice Bank Control Replacement

1. Disconnect power to dispenser.
2. Remove cap from drain tube and position the drain tube in the drain pan and drain the water bath.
3. Refill water bath with warm water at a temperature of 120^0F (49^0 C). Let it stand for ten (10) minutes to melt ice bank. If ice remains, repeat Steps 2 and 3 until all ice is melted. Failure to melt all ice may cause the dispenser to freeze-up after the new ice bank control is installed.
4. Remove two screws from dispenser top and remove top.
5. Install new ice bank control by pushing probe down into the 3/4" tube until it stops.
6. Refill water bath; replace dispenser top and secure with two screws.
7. Connect dispenser to power source and turn **ON**.

Carbonated Water/Plain Water Conversion

1. Depressurize incoming water and syrup lines to valves being converted.
2. Remove upper cabinet.
3. Remove valves to be converted.
4. Remove valve mounting block.
5. Remove cap from water line located behind valve mounting plate. Place cap on to water line being converted. (Be careful not to pinch o-rings.)
6. Place tube end through valve mounting plate and attach valve mounting block.
7. Before reattaching valve, pressure/leak test.
8. Reattach valve. Reinstall upper cabinet.
9. Install new valve cover flavor label to match conversion.

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CORNELIUS INC. A.S.S.E. LISTED DOUBLE CHECK VALVE

APPLICABLE TO OMEGA PLUS COLD CARBONATOR UNITS

Installation Instruction and Maintenance

Double Check Valve Performance

Check valves are mechanical devices which allow fluid flow in one direction and prohibit flow in the opposite. in conjunction with beverage dispensing equipment, double check valves are required by local, state and federal agencies to prevent the backflow of carbonated water or beverage into the potable water supply. they are always found on the water inlet side of all carbonators supplied by carbonator manufactures. in-line check valves may also be found randomly within varied beverage system installations. this prevention is necessitated by the fact that carbonated water can react with copper plumbing causing a potential contamination problem.

The double check valve requirements described here should not be confused with single check valves of the same style found on carbonators. though they are similar in performance and operation, the double is always to be plumbed to potable water.

It is recommended that a suitable strainer be installed upstream of the device as found in place on all carbonator pumps to reduce backflow due to potential lodging of large particles under the valve seat.

Double Check Valve Maintenance Schedule

It is the responsibility of the user to maintain the proper operation of any double check valve by periodically testing it as follows, at least once every three (3) months.

During an idle period, shut off the incoming water supply and dismantle the line at the check valve inlet. restrain any unpressurized free flowing water from the supply line.

Turn off the CO_2 supply pressure to the carbonator. dry off the double check valve inlet end and, observe for one minute, any evidence of water seeping from it.

Slowly relieve the CO_2 pressure within the tank by pulling the relief valve. if all the pressure has been relieved and there is no evidence of water seeping from the double check valve, it is functioning satisfactorily.

If there is seepage evident, the double check valve should be rebuilt or replaced. see service section.

Re-assemble water supply line and turn both the water and CO_2 back on.

> **NOTE: Anytime the potable water within the building facility has a peculiar taste, the double check valve should be inspected for possible malfunction. The carbonator location should always be readily accessible.**

One particular style of double check valve, called a “vented check”, has an intermediate vent to atmosphere. this style vents to atmosphere any backflow of CO_2 or carbonated water seeping back through the first check.

Cornelius Inc. will not be held responsible for any damages, to personnel and/or property, resulting from the improper installation of this vented Double Check Valve. If this style is installed in your system, provisions must be made to vent water and/or gas to a sufficiently open disposal area and that a back siphonage condition is not created.

Double Check Valve Servicing

Service should be performed by a qualified service agent.

The double check valve bodies thread together. The o-rings provide sealing and checking seats for the ball checks which are spring loaded in the checking direction. O-rings and balls should be periodically evaluated for wear, at least once a year depending on usage.

Parts should be clean and free of dirt during disassembly. Glycerine or fda approved o-ring lubricant should be applied to the o-ring prior to reassembly.

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Removing Refrigeration Deck

Applicable to units with optional split deck only. (See Figures A, B & C).

In the event the refrigerator system fails and repairs cannot be made the same day, the unit is capable of dispensing cold carbonated drinks in the following manner.

1. Remove upper cabinet assembly.
2. Depressurize water inlet supply.
3. Disconnect water inlet to pump and pump to pre chilled tubes. Remove two (2) slotted head screws securing deck.
4. Disconnect all electrical leads to electrical box.
5. Remove deck from unit.
6. Separate pump deck from refrigeration deck, remove one hex head screw securing electric box from condenser.
7. Re-install pump deck onto lower cabinet engaging pin in lower cabinet flange with hole in pump check and tab on pump deck with slot in product coil spacer.
8. Reconnect water inlet to pump and pump to pre chilled tubes.
9. Reconnect electrical connections to front of electrical box.
10. Fill lower cabinet with ice.

Unit is now ready for cold drink dispensing.

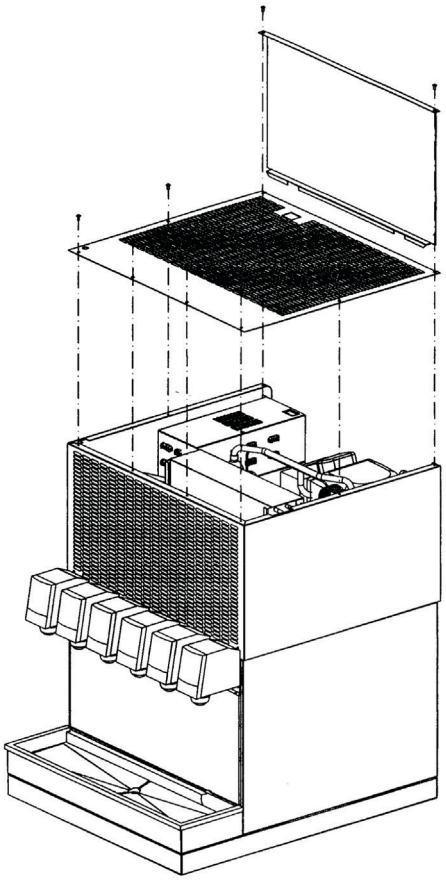

Figure 1.Remove Upper Cabinet.

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NOTE:

If additional access to carbonator pump/motor is required, the electrical box can be removed by removing one (1) #8 hex head screw securing box to condenser, sliding box forward to disengage from shoulder rivets and lifting up to remove.

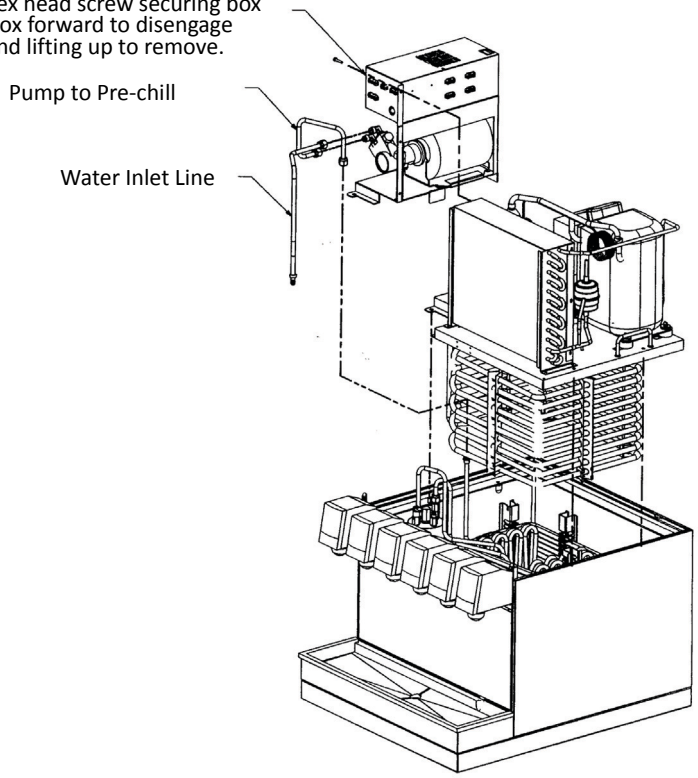

Figure 2. Remove Refrigeration Deck

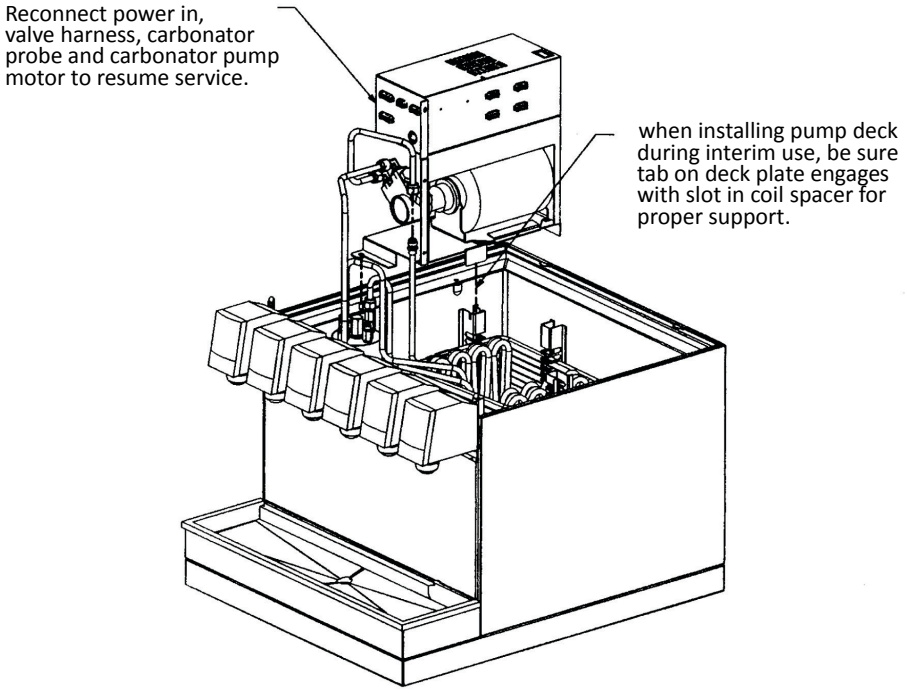
Reconnect power in, valve harness, carbonator probe and carbonator pump motor to resume service.
when installing pump deck during interim use, be sure tab on deck plate engages with slot in coil spacer for proper support.

Figure 3. Re-installation of Pump Deck

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Removing Dispenser From Service

IMPORTANT: Dispenser should be thoroughly cleaned, sanitized and drained to prevent problems when unit is placed back into service.All cooling coils must be free of water before storing or returning unit to factory. Residual water in the dispenser stored in a freezing environment can cause internal damage.

Follow the Cleaning and Sanitizing Instructions in manual.

1. Using a double end plug or empty, clean container, connect CO_2 supply to all water and syrup inlet lines and force all water out of lines with CO_2 pressure.
2. With water shut off, run the carbonator pump for one (1) minute maximum to discharge any water in the pump.
3. With the water shut off, turn up CO_2 pressure to 100 psi and open all valves until gas comes out.
4. Disconnect CO_2 supply.
5. Disconnect dispenser and optional carbonator from electrical source. Unplug power connector to carbonator motor on Omega Plus.
6. Drain strainer on carbonator pump.
7. Drain water bath.

To expedite melting:

8. Remove cap from drain tube and position drain tube in the drain pan.
9. Place funnel in water bath fill hole and slowly pour warm tap water into the water bath.
10. When ice is melted, completely drain all water from the water bath and remove the refrigeration deck assembly.
11. Following the Water Bath Cleaning Instructions in manual, thoroughly clean and dry the coils and water bath.
12. Re-install refrigeration deck back into water bath and secure with 2 screws and install dispenser top and secure with two screws.
13. Place a plastic bag or sheet over valves, product and water line connections and secure in-place with tape before storing or shipping.

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SERVICE AND TROUBLESHOOTING

WARNING:
Disconnect power and CO_2 to the unit before servicing, following all the lock out/tag out procedures established by the user. verify all of the power is off to the unit before performing any work.

Failure to comply could result in serious injury, death or damage to the equipment.

The following is provided to aid in correcting beverage dispensing system problems. **Refer to individual accessory manuals for trouble shooting help.**

The Omega and Omega Plus are subject to the same problems associated with any self-contained mechanically refrigerated dispenser (compressor, condenser, fan, etc.). Trouble shooting problems are similar to other dispensing systems.

The Omega and Omega Plus operate with a medium temperature condensing unit and a capillary tube regulated evaporator. A thermally operated ice bank control switches the condensing unit ON and OFF to maintain a nominal ice bank weight of 50 pounds (Omega), 45 pounds (Omega Plus) in a 19 gallon water bath. A 120VAC agitator motor runs continuously unless power switch is turned off. At rest, the compressor will run for approximately five minutes out of every sixty minutes at a 75 degree F. ambient temperature.

Before seeking repair help, check the following:

1. Is syrup supply depleted?
2. Are syrup supply lines properly connected to syrup tanks or BIB system?
3. Is syrup outlet line properly connected to pump stand fitting (BIB only)?
4. Is CO_2 inlet line properly connected to pump stand fitting (BIB only)?
5. Does carbonator have adequate water supply?
6. Is dispenser or carbonator connected to 120 VAC 20 amp grounded outlet?
7. Is CO_2 supply adequate?
8. Are CO_2 regulators set properly?
9. Room Temperature Carbonator - 105 PSI
10. Cold Carbonator- 75 PSI
11. Are circuit breakers in the OFF position or fuses blown?
12. Is key lock switch OFF?
13. Are the dispenser and condensing unit power supplies OFF?

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TROUBLESHOOTING GUIDE

Corrective action indicated by * should be made by qualified dispensing system personnel.

TROUBLE	POSSIBLE CAUSE	SUGGESTED SOLUTION
No product dispensed from all or some valves	Key lock switch not ON	Check position of key lock switch. *If defective, replace.
	No electricity to valve	Check for tripped circuit breaker or blown fuses, reset or replace. *If system opens again, locate short in electrical system and correct.
	No gas pressure to system	Check CO_2 pressures to make sure pressure settings are in accordance with manufacturer's requirements.
	Transformer(s) not connected or defective transformer(s)	*Check output (should be 24VAC) of transformer(s). Correct connections or replace transformer(s) if defective.
	Loose or defective connections	*Check all connections between transformer(s) and valves. Tighten if loose or replace.
	Frozen product coils	See Trouble - Frozen Product Coils.
	Defective valve timer module (Portion Control models only)	*Replace.
Water only dispensed, no syrup	Syrup supply is depleted	Refill or replace syrup supply.
	Gas or liquid connections in syrup supply system are not secure	Check that all connections are tight and secure.
	Syrup and CO_2 lines are kinked	Adjust lines or replace.
	Dispensing valve syrup shutoff is closed	Open shutoff valve.
	Lack of gas pressure to syrup tanks or BIB pumps	Check that gas supply and low pressure regulator settings are set in accordance with manufacturer's recommendations.
	Dip tube in syrup supply tank is blocked	Depressurize tank through relief valve. Remove both quick disconnects from syrup container. Remove all syrup and wash tank. Interchange quick disconnects and pressurize syrup-out connection to remove debris from dip tube. Clean tank again and refill.
	Inoperative syrup solenoid valve within dispensing valve	*Check for loose wires, defective solenoid coil and foreign matter preventing armature from pulling up. Remove, clean and replace components as necessary.
Syrup only dispensed, no water	Dispensing valve water shutoff is closed	Open valve shutoff.
	Water supply is OFF	Open water supply to carbonator and dispenser.
	Inoperable water solenoid valve within dispensing valve	*Check for loose wires, defective solenoid coil or foreign matter preventing armature from pulling up. Remove, clean or replace.
	Frozen water coils	See Trouble - Frozen Product Coils
	Carbonator	See Carbonator Manual.

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Valve will not shut off	Electrical short between transformer and valve	*Check all wiring between transformer and valve. Repair or replace wiring.
	Timer module defective or wet (Portion Control models only)	No response when dry, replace.
	Defective valve solenoid, armature seat, armature spring or retaining ring	*Replace valve solenoid assembly.
Valve drips syrup or water	Foreign matter under solenoid armature seat	*Disassemble valve solenoid and clean.
	Defective valve solenoid, armature seat, armature spring or retaining ring	*Replace valve solenoid assembly.
Too much foaming when drink is dispensed	Syrup supply is out	Replace syrup supply.
	Water or syrup temperature is too high	See to Trouble - Beverage Not Cold.
	Foreign substance in water (Oil base substance will cause CO_2 to be released from drink)	Make sure no pipe compound on fittings; use Teflon tape.
	Contaminated ice	Impure ice will cause foaming. Call ice machine technician.
	“Super” cold ice (freezer temperature)	Ice should be near melting (32° F)
	Chipped or Jagged ice	Ice should be in cubes with rounded corners.
	Dispensing flow rate is too high	Adjust water and syrup flow rates to achieve desired syrup-to-water ratio at a combined slower dispensing flow rate.
	Dirty valves	Clean valve nozzle, diffuser and syrup tubing thoroughly.
Beverage not cold. Drink temperature should be 35-40°F. Note: When taking drink temperatures, dispense 16 oz. of product to get a true reading.	Low water bath level	Check water bath level. If 2 or more gallons are added, cause is confirmed.
	Depleted ice bank (not applicable after periods of very heavy usage)	*Check compressor. If running, allow system time to recover (approximately 1 hour to restore quality drink). If compressor is not running or if system does not recover, see Compressor trouble shooting section.
Low or poor carbonation	Air in the water	*Check water supply conditions. Purge air from the water supply.
	Foaming in drinks	See Trouble - Too Much Foaming When Drink Is Dispensed.
	Dispensing valve diffuser missing	Install diffuser.
	Soda water temperature is too high and affects amount of retained carbonation	See Trouble - Beverage Not Cold.
	Flooded carbonator when water supply pressure is higher than CO_2 pressure.	Check water pressure regulator system. See Carbonator Manual.
	CO_2 pressure is too low	Check CO_2 pressure regulator system. Adjust according to soft drink supplier recommendations.
	Foreign substance in water (i.e., oil, debris etc.) will release carbonation from the drink	Check fittings for pipe compound. Use Teflon tape.
	“Super” cold ice will cause foaming and loss of carbonation	Ice should be near melting temperature (32°F.).
	Dirty valves	Clean nozzle, diffuser and syrup tube of dried syrup.

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Bad taste or odor in drink	Dirty valves	Clean nozzle, diffuser and syrup tube thoroughly.
	Foreign substance in water (strong odor of chlorine, sulphur, iron, etc.)	Flush and clean water system. Service water filter system or install filter system.
	Ice contaminated	Call ice machine service person; clean ice bin.
	Syrup contaminated	Clean and sanitize tank lids, gaskets and syrup CO_2 couplers per tank manufacturers instructions. Taste syrup without soda water. Contact syrup supplier if taste still bad.
	CO_2 gas impure (oil or sludge from filling tanks)	Use only beverage grade CO_2.
	Plumbers pipe compound or pipe dope present	Remove piping, clean joints and replace pipe using Teflon tape.
	Brass or copper tubing or fittings	Use only stainless steel or food grade polyethylene for soda water lines.
	Carbonator	See Carbonator Manual.
Carbonator pump motor will not stop	Defective water check valve	See Carbonator Manual. *Remove, clean or replace.
	Pump motor running in wrong direction	See Carbonator Manual. *Replace motor.
	Water leaking from vent-to-atmosphere check valve	See Carbonator Manual. *Replace check valve.
Noisy carbonator pump	Inadequate water supply	See Carbonator Manual. Check for clogged filter or strainer. Check inlet water pressure.
	Pump misaligned to motor	See Carbonator Manual. *Check that pump and motor are aligned and clamp ring is tight.
CO_2 or water escaping from carbonator relief valve	Excessive CO_2 pressure	See Carbonator Manual. Check CO_2 regulator system.
	Relief valve lever in UP position	See Carbonator Manual. Check position of relief valve. *Replace if necessary.
Compressor will not run	Loose wiring, open switch	*Check all wire connections; tighten or repair.
	Fuse blown or circuit breaker tripped	Replace fuse or reset circuit breaker. *If fuse blows or circuit breaker trips again, check electrical supply wiring.
	Ice bank control not connected or defective	Check that control is connected by jumping (shorting) control terminals. If water bath is above 37°F and contactor closes (compressor starts), ice bank control is defective. See Ice Bank Control Replacement.
	Defective compressor start components	*Replace defective relay or capacitor.

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Compressor runs but stops/ Runs but will not cool	Compressor overload trip (If air temperature is above 100°F, tripping may result heavy load under high ambient conditions.)	Check that condenser fan is running and that air flow is adequate. *If air flow is blocked or fan is defective, correct. Check room for air 6 feet from condenser; if it is much lower, unit is drawing in hot discharged air. Correct with baffles. *If tripping persists, check compressor and/or overload.
	Low refrigerant charge	*Contact refrigeration service person to check for leaks (sign of oil on lines/ fittings). If oil deposits are found, charge has been lost. Repair and recharge.
	Refrigerant restriction	*Contact refrigeration service person to verify tight connections, kinks in lines, etc. Replace heat exchanger if necessary.
	Faulty compressor	*Contact refrigeration service person to replace if necessary.
Compressor is noisy	Compressor mounting is loose	*Tighten mounting screws.
	Compressor bearings are worn	*Contact refrigeration service person to replace bearings or compressor.
Frozen product coils	Insufficient water level in water bath	See Start Up and Operation in manual. Fill water bath to fill line.
	Agitator not stirring	*Check that motor is receiving power. Check that impeller is not obstructed. Repair or replace.
	Mis-located ice bank control sensor	*Melt the ice bank and check location of the sensing bulb to be sure it is at the bottom of the tube.
	Compressor will not shut off	*Check ice bank control for fused contacts. Replace control.
	Deck not properly located	Check that factory installed deck mounting/locating screws have not been omitted during routine maintenance.

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TROUBLESHOOTING GUIDE OMEGA PLUS INTEGRAL CARBONATOR

The following is provided to aid in solving carbonator problems.

WARNING:
Only trained and certified electrical, plumbing and refrigeration technicians should service this unit.

All wiring and plumbing must conform to national and local codes. Failure to comply could result in serious injury, death or equipment damage.

IMPORTANT: Disconnect electrical power, water, and CO_2. Bleed system pressures.

Pump Motor will not Run

TROUBLE	SUGGESTED SOLUTION
Locked Pump Rotor - Dirt or Pipe Compound in Pump; Pump Seized	Remove and check for free rotation or replace. Also check CO_2 supply, faulty single check valve, liquid level control or probe.
Carbonator Flooded	Main water supply pressure higher than CO_2 pressure within the carbonator. If maximum water supply pressure is within 20 PSI of CO_2 pressure, install water pressure regulator.
Relay Inoperative	With water and CO_2 supply off and pressure relieved on carbonator, remove electrode from the carbonator tank. Test for continuity between probes and electrode conductors. (See wiring diagram on electrical box cover.) Replace faulty electrode. If electrode functions correctly, replace relay.
No Power	Check source of electrical supply and for loose connections.

Pump Runs Continuously

TROUBLE	SUGGESTED SOLUTION
Pump water supply restricted	Check water filter and pump inlet strainer and clean. **NOTE: Noisy pump operation usually indicates restricted water supply. Also check for faulty double check valve, water leak or low pump bypass.**
Pump discharge line restricted	Water inlet check valve may be plugged. Remove, clean, or replace rubber O-rings.
Inefficient or worn pump	To test for efficiency, disconnect discharge line from pump. Connect a 300 pound gauge and hand shut off valve to pump discharge. Start pump. Bleed off any air, close hand valve then observe pressure. If it is approximately 180 PSI, pump is O.K. If it is significantly below 180 PSI, it may be increased by adjusting the pump by-pass. Increasing the by-pass is accomplished by removing sealing acorn cap and turning the adjusting screw in. If pressure rises to 180 PSI, pump is O.K. If it is still below 150 PSI, and the screw is turned all the way in, the pump is worn. Replace. **NOTE: A badly worn pump and/or premature failure usually indicates foreign material in the supply water. Install a water filter in supply line.** Also check for faulty liquid level control, corroded electrode, or broken pump shaft.
Excessive CO_2 pressure within carbonator	Check CO_2 supply to carbonator and that it's set to manufacturer's recommended pressure setting. If pressure creeps above the recommended setting, regulator is leaking. Replace regulator.
Overdrawing	Check capacity of pump. The combined rate of flow from dispensing valves should not exceed the stated GPH for pump, or pump will run continuously.
Relay Inoperative	With water and CO_2 supply off and pressure relieved on carbonator, remove electrode from carbonator tank. Test for continuity between probes and electrode conductors. (See wiring diagram on electrical box cover.) Replace faulty electrode. If electrode functions satisfactorily, replace relay.

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Noisy Pump

TROUBLE	SUGGESTED SOLUTION
Bad Motor Bearings or Worn Pump Shaft	Repair or replace motor.
Failure of Triac on Liquid Level Control	Repair or replace liquid level control.
Insufficient water supply	Check that water supply is on. Also check for clogged water filter, ruptured tank or bad double check valve.

Valve Delivers CO_2 Gas Continuously

TROUBLE	SUGGESTED SOLUTION
Pump motor will not run	See PUMP MOTOR WILL NOT RUN
Excessive CO_2 pressure	Check CO_2 pressure regulator for creeping. Check for faulty single check valve, tank rupture or CO_2 supply leak.
Pump water supply restricted	Clean strainer. Check for faulty double check valve.
Relief Valve Venting	Repair or replace.
Worn pump	See PUMP MOTOR WILL NOT STOP

Valve Delivers Soda Water and CO_2 Gas Intermittently

TROUBLE	SUGGESTED SOLUTION
Excessive CO_2 pressure	Check CO_2 pressure regulator for creeping. Set pressure at 95-105 lbs.
Pump water supply restricted	Clean strainer. Check for faulty single check valve, clogged water filter, water supply off or blocked, ruptured tank, faulty liquid level control or double check valve.
Relief Valve Venting	Repair or replace.
Inefficient or worn pump	See PUMP MOTOR WILL NOT STOP

Poor Carbonation

TROUBLE	SUGGESTED SOLUTION
Flooded Carbonator	See PUMP MOTOR WILL NOT RUN
Water Temperature Too High (Warm)	Check water inlet temperature. Lower temperature provides better carbonation.
Oil in water supply	Check pipe thread compound. Remove and clean and replace with Teflon pipe thread tape.
Too low CO_2 pressure	Check CO_2 pressure at regulator and that it's set at dispenser manufacturer's recommended settings. Check for leak in CO_2 supply line or faulty CO_2 inlet check valve.
Supply water containing too much air in solution	See Routine Maintenance.
Poor quality paper cups	Purchase quality cups made for this application.
Dirty valves	Clean nozzle, diffuser and syrup tube.
Excessive Foam	CO_2 pressure too high, contamination within the beverage system, poor quality paper cups or dirty glassware.
Flat Drinks	Draw drinks against side of glass or cup. Check for insufficient CO_2, contamination, bad check valve, ruptured CO_2 line or relief valve is venting.

Drink has Off-Taste or Odor (Water Contamination)

TROUBLE	SUGGESTED SOLUTION

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Leaking check valves	Replace o-rings in double check valve or replace double check valve. See check valve installation instruction section.
Too much plumbers pipe compound on pipe joints	Remove pipe compound and clean joints. Use Teflon Pipe Thread Tape.
Soda water and beverage lines made of brass or copper	Carbonated water reacts with brass or copper and should not be dispensed through lines of this material. Replace lines with stainless steel or beverage grade plastic.
High Chlorine Level	Install water filter to eliminate chlorine in excess of 1.5 ppm. Use type that do not remove all chlorine.
Tank Corrosion	Replace tank.
Contaminated CO2	Check that CO2 is beverage grade.

SCHEMATICS

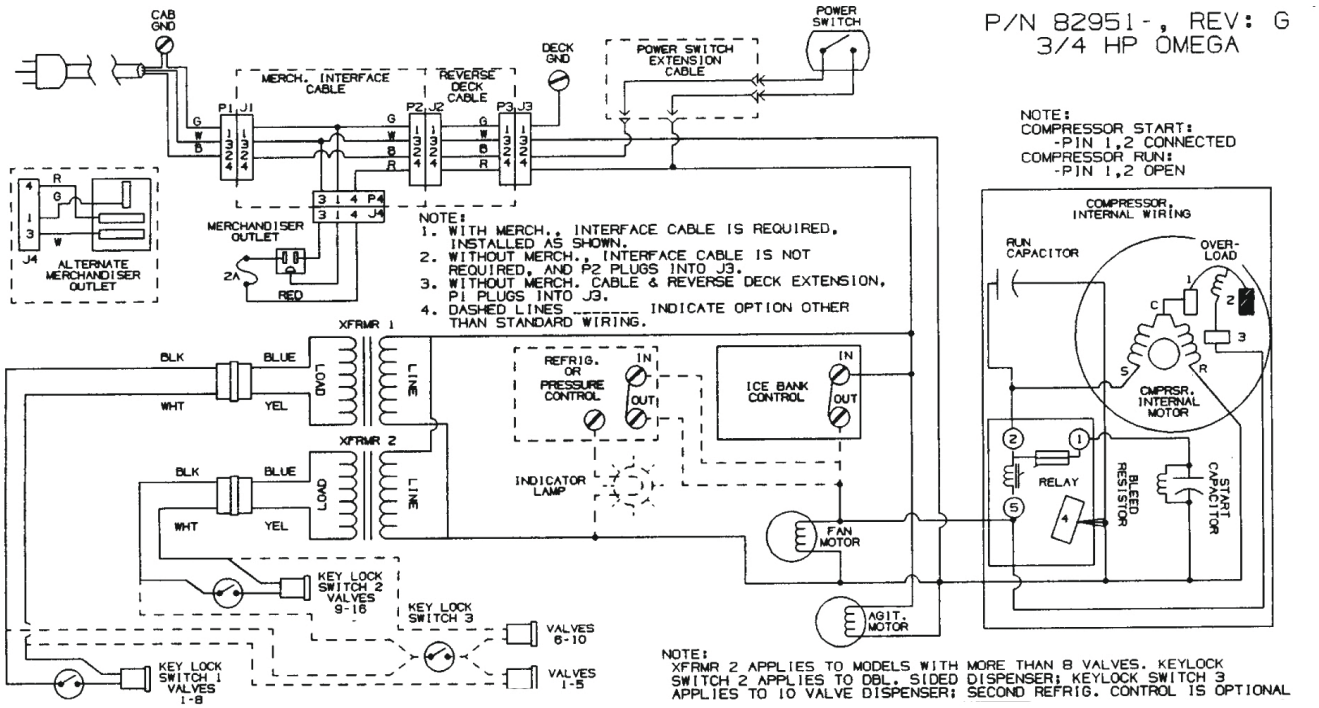

Figure 4. Omega Wiring Diagram

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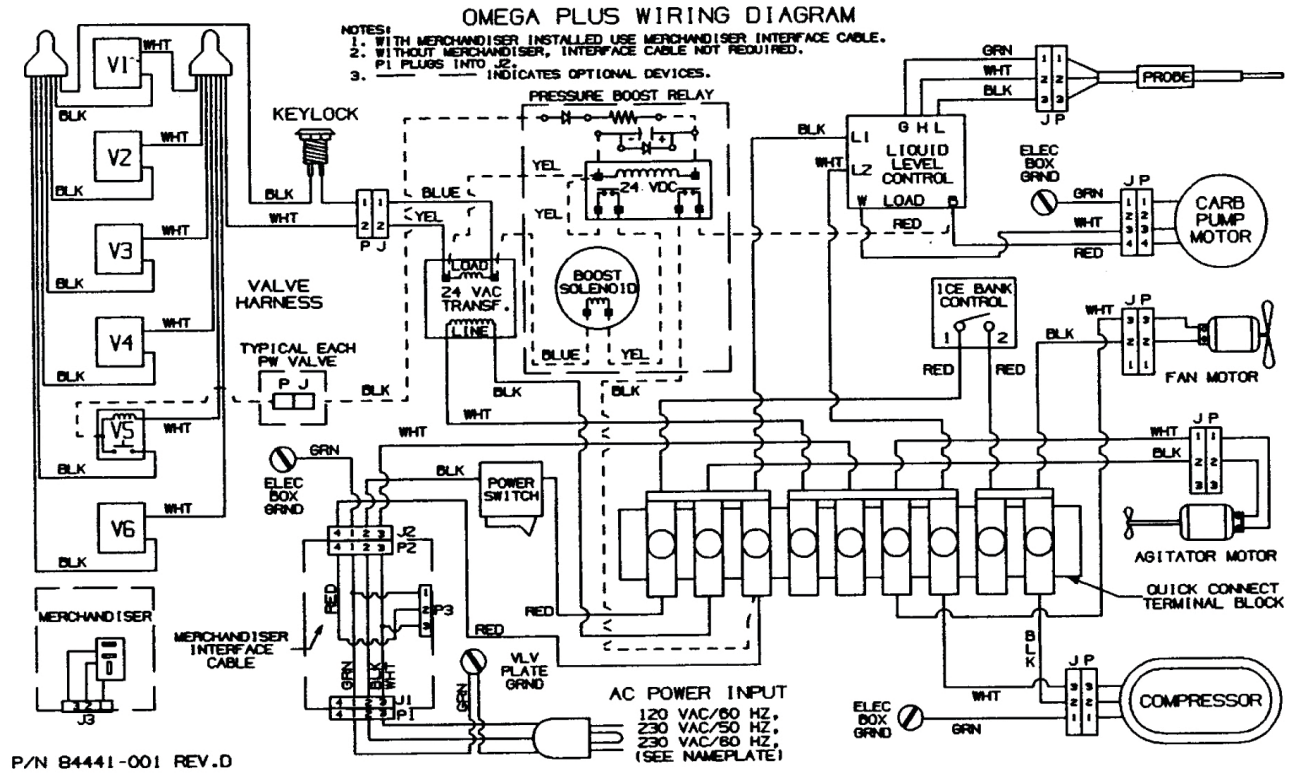

Figure 5. Omega Plus Wiring Diagram

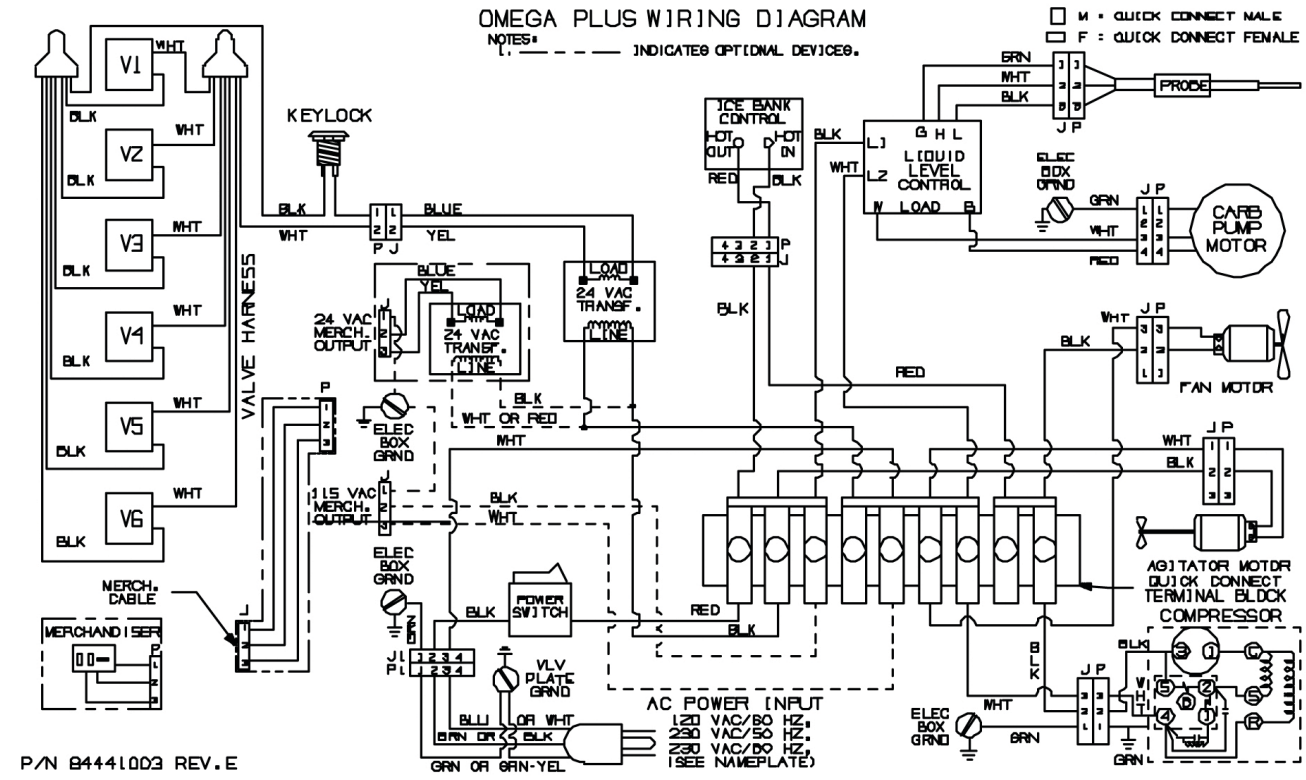

Figure 6. Omega Plus Wiring Diagram

MODEL RC OMEGA PLUS CHILLER

REMOTE BEVERAGE CHILLING SYSTEM

Description

The **RC Omega Plus** Is a self contained, cold carbonator, remote beverage chilling system. It is intended to operate in conjunction with a remote beverage dispensing tower connected via an insulated multi-tube conduit which carries chilled syrup and soda water between the chiller and the remote tower. The **RC Chiller** may be placed in any convenient location as long as adequate ventilation and service access is maintained.

The **RC Chiller** includes a self-contained water tank which acts as a reservoir for building an ice bank reserve to assist the refrigeration system in chilling syrup and soda water as it is routed through cooling coils to the remote tower. An auxiliary ci**rc**ulator pump continuously reci**rc**ulates soda water between the tower and the **Chiller** to maintain readily available cold soda water at the dispensing valve.

The **RC Chiller** contains a step down transformer assembly which reduces 120 volt AC power to 24 volts AC. The remote tower must use a dedicated 24 volt AC power supply to activate the dispensing valves.

Service access to the reci**rc**ulating pump is achieved by removing the ventilated front cover. Access to the refrigeration deck assembly simply requires removal of two front mounted screws in the upper cabinet cover and lifting the cover straight upward. Connecting beverage lines are routed to the chilling chamber through a slotted opening in the floor section between the reci**rc**ulating pump enclosure and the front of the water tank. Separate **ON-OFF** controls for refrigeration operation and soda reci**rc**ulation are located on the front of the upper cabinet.

RC Omega Plus Remote Chiller

Refrigerant	R134a
Carbonation	Integral Cold Carbonator
Compressor	3/4 HP
Agitator Motor	35 Watt
Fan Motor	9 Watt
Carbonator Pump/Motor	1/3 HP, 100 GPH
Recirculation Pump/Motor	26 Watt, 2 GPM @ 8 ft.
Ice Bank Control	Mechanical
Electrical	115 VAC/60 Hz, 15.1 RLA
	220 VAC/50 Hz, 8.0 RLA
Inlet Fittings	3/8” Barb Soda/Water
	1/4” Barb Syrup
Dimensions	24.0” Wide x 29.44” High x 28.63” Deep
Features	All Stainless Enclosure
	Front/Side Handle
	Reversible Python Connections
	8 Syrup Flavors

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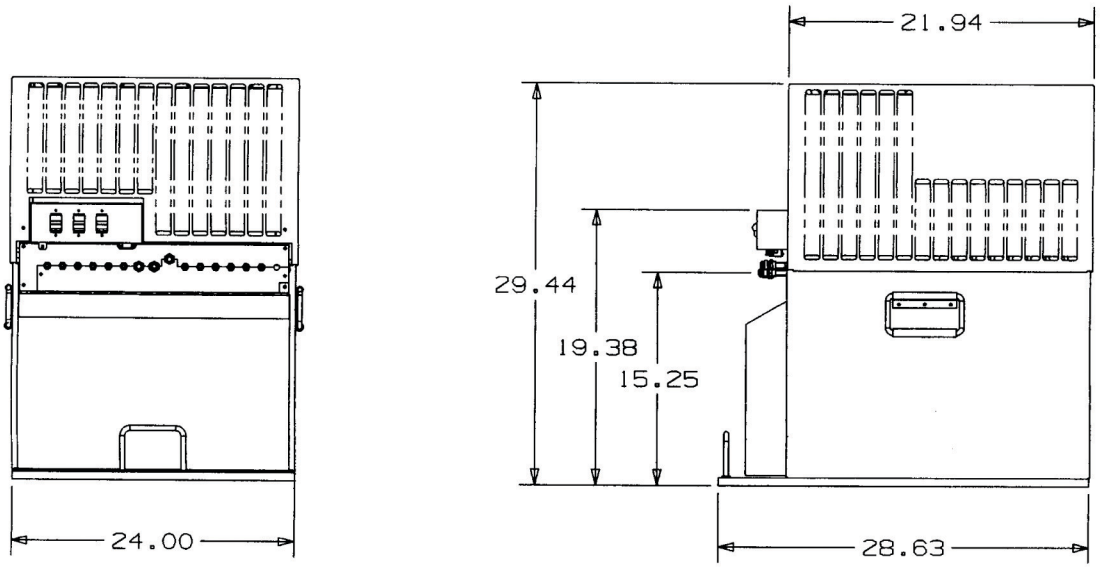

Figure 7. RC Omega Plus Remote Chiller

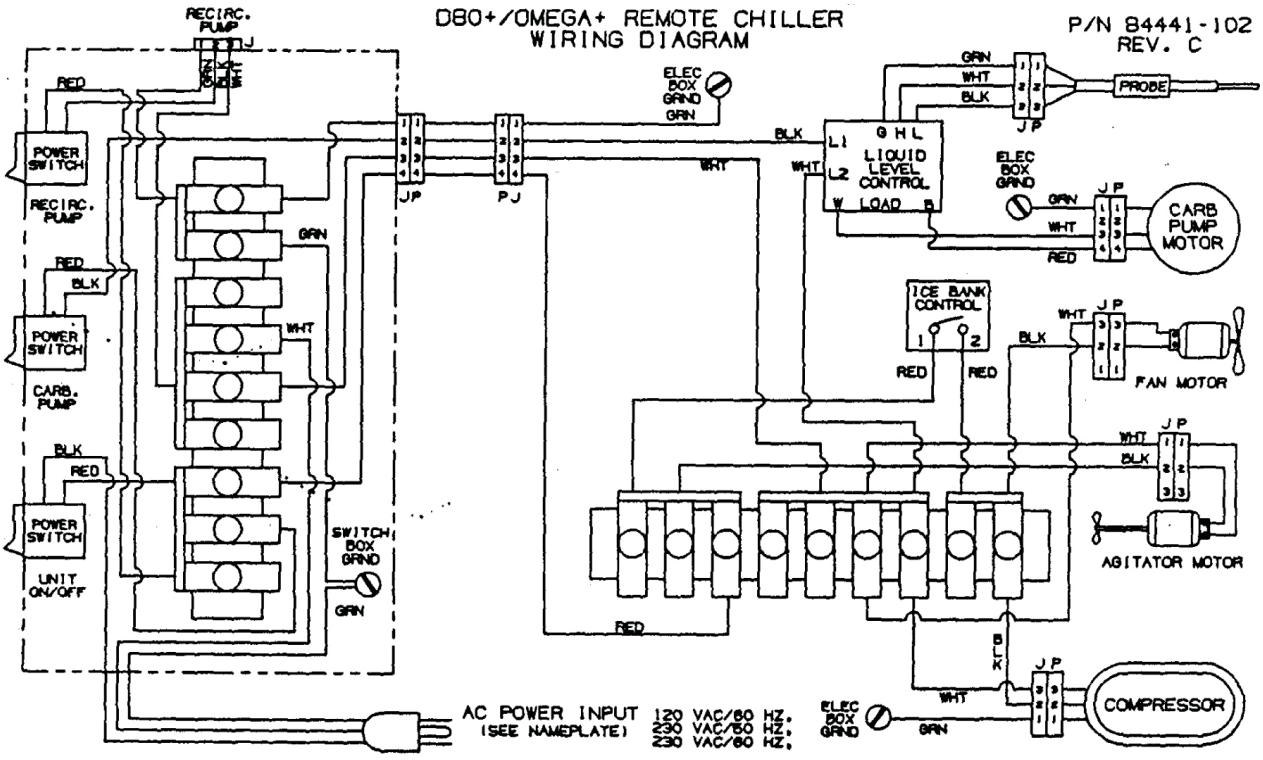

Figure 8. RC Omega Plus Remote Chiller Wiring Diagram

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